

CPVEC

ADEC CPVEC preliminary request for supplemental information Princess SRE Report

Subject: SRE Report 1 14 2009 PRINCESS

Contact: George Wright PRINCESS

Reference: Information PRINCESS SRE Annual Report 1 14 2009

Vessels: Princess Fleet / reference vessel Golden Princess

Prepared by: Albert Faure.

Date: January 22, 2009.

To: George Wright

Dear Mr. Wright:

With reference to your annual SRE Report sent to us on January 14, 2009 (SRER), please find the preliminary list with questions.

ADEC CPVEC is pleased to see the efforts PRINCESS put in the SRE reporting and following up on the source reduction plans and continues developing the SRE.

In case of questions, please contact me or Ed White.

Kind Regards,

Albert Faure
CPVEC Program Engineer

Attachment: *Preliminary Questions ADEC PRINCESS SRE Report 1 14 09*

Preliminary Questions

General: ADEC sent on January 20, 2009 to PRINCESS the request regarding the confidential status of PRINCESS's SRE Report. On January 22, 2009 Princess provided information to ADEC (e-mail) that removed the "confidential status" of the SRE.

This review includes the review of Princess SRE report on 1 14 2009 that consists of 6 (six) Exhibits (SRER).

ADEC used as reference document the approved SRE of August 19, 2008 Final Revised (approved SRE) (on file ADEC CPVEC).

- Princess needs to provide clarification on how the provided Exhibits "ties into" the SRE actions of the SRE of August 19, 2008. Princess included in the approved SRE plans and follow up items. The SRER Exhibits appear to not be clear about what was really done and how Princess proceeded. Also for the items that were investigate evaluation results, the "lessons learned" appear to be missing in the Exhibits SRER.
- Please provide clarification / information on how the SRE report Exhibits "interact" with each of the listed categories of the approved SRE of August 19, 2008 Revised Final. For Example: the SRE Report list Exhibits, how are these Exhibits connected to the Categories in the approved SRE plan of August 2008? Princess needs to provide in the Reporting update the responses on each category listing in the SRE reporting.
- Category 1 (Page 1 of 18) Approved SRE includes using pre-treatment product to condition the wastewater before entering AWTS. The SRE Report of 1 14 09 (SRER) Exhibits appear to not mention this subject. Princess needs to clarify if pre-treatment was performed in 2008, and if so what were the results? Lessons learned? If this item was not performed the annual report needs to indicate, and provide information why it was not executed.
- Category 2 (page 1 of 18) Approved SRE includes possible source for copper. Please clarify where it is addressed in the SRER. Exhibit 6 includes sample results regarding the metals and focusing on potable bunker water. Evaporator water is included also. Please clarify and provide information regarding the piping system how the Star Princes systems are representative for the other vessels in the Princess fleet. We understood that not all Princess vessels are identical (e.g. different shipyards) and may have different piping materials systems. What conclusions and actions are taken by Princess to reduce the sources of metals? What for operational changes were taken by Princess? The Exhibits appear to not include this information.
- Category 3 (page 1 of 18) Approved SRE includes information that Princess will evaluate the onboard chemicals for cleaning etc. and bunker water. Are the Ecolab and Unitor products the only cleaning brands and products used on the Princess Ships? Please clarify, and include in your response also the other cleaners (if any) evaluated by Princess. Princess did potable water (bunker water) sampling what actions were taken by Princess regarding the source reductions? Provide in your

- response the actions taken based on the bunker water results. Provide the results from Princess /ACA study (page 10 of 18) of the potable water bunker water sampling "San Francisco / to Seward".
- Category 4 (page 1 of 18) Approved SRE includes research into technical solutions, modification, retrofitting, redesign etc. Exhibit 4 includes a description of on board survey and proposed actions. Provide a response on what the current status is, which vessels have undergone this study. What is the current status of this action? What is the timeline in 2009 (Alaska cruise season)? Clarify the following abbreviations in the document: ISF feed /DP sensor. Provide clarification on why Tank 5 is used on the Golden Princess. The AMMO 1000 system what system is this? Provide concise description of this system including which additive and at which rate is dosed. Provide a concise line diagram that includes the AWTs system upgrade. On Page 13 of 18 of the approved SRE, Princess identified that efforts will be made regarding the low Ph, Ammonia and metals. Which on board actions, plans are made till date? What are the results? What was really done on board? How related these actions (if any) to the gathered sample results? Princess needs to provide follow up on the "Action plans". The follow up must include the results and the "lessons learned" from the action plans. Page 15 of 18 approved SRE, in this section Princess stated that the "Langlier Index" will be controlled to minimize the effect the water on the piping. Princess needs to provide in detail the actions till date taken, on which vessels evaluation is done and the results. Did Princess implement the alternative of the Potable water system? This item does not appear to be discussed in full detail in the Exhibits SRER.
 - Category 5 (page 1 of 18) Approved SRE includes that Princess will attract external consultants to conduct feasibility studies. Exhibit 5 includes a plan and overview of technologies, and includes a schedule. The schedule is dependent upon when information is received from Vendors. Provide information which Vendors have been contacted (as per January 2009). Also include in your response when you expect the responses (date) from the Vendors, and the items you refer to on page two of Exhibit 5. In general it is our experience that responses from Vendors do not take that much time.
 - Category 6 (page 1 of 18) develop a time scale to meet the effluent limits. Please identify in which Exhibit this timescale is included. If not identified in the Exhibits, Princess needs to provide a timescale according to the SRE. Exhibit 5 should include a "time scale"
 - Category 7 (page 1 of 18) Princess needs to provide where this subject applies on the Exhibits (what is new; e.g. results etc.).
 - Princess identified in the SRE "two phase Evaluation of the Hamworthy AWTs; Exhibit 4 includes Hamworthy items, provide information which items of Exhibit 4 are related to the Phase 2.
 - Exhibit 4 includes verbiage that "Review reports / and research performed" please identify which reports and research is performed / reviewed till date in detail.

The goal is that the Department has all the relevant SRE reporting information regarding on file for future reference.

We are looking forward to PRINCESS's response.